

REMARKS

Reconsideration of the application is respectfully requested.

I. Status of the Claims

Claims 1 - 19 are currently pending in the application.

Claims 1, 14 and 19 are amended without the introduction of new matter. No new matter is added.

II. Rejections Under 35 U.S.C. § 103

Claims 1 - 4, 14 - 17 and 19 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,385,539 to Maynard in view of U.S. Patent No. 5,291,884 to Heinemann. Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Maynard and Heinemann in view of U.S. Patent No. 5,838,429 to Hahn et al. Claims 6 - 11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Maynard and Heinemann in view of U.S. Patent No. 6,582,385 to Burbank et al. Claims 12 and 13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Maynard and Heinemann in view of U.S. Patent No. 4,082,461 to Mould. Claim 18 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Maynard and Heinemann in view of U.S. Patent No. 6,554,788 to Hunley et al. Applicants amend claims 1, 14 and 19 to further clarify the nature of their invention, and respectfully traverse these rejections.

Maynard discloses a hematocrit measurement sensor that may be used in conjunction with a blood purification system (see, e.g., column 3, lines 10 - 39 of Maynard). The Examiner

acknowledges that Maynard fails to disclose a sensor that pairs a single light reception device in optical communication with a single light emission device, but suggests that this deficiency is made up with the addition of Heinemann.

Heinemann discloses an apparatus for measuring a blood parameter (see, e.g., abstract and Fig. 1 of Heinemann). As illustrated in Fig. 1, a light source 27 is positioned for transmitting light through a sending aperture 21 of the apparatus, and a light detector 31 is positioned to receive light through a receiving aperture 23 of the apparatus. Optical wall 25 is positioned to optically isolate the light source 27 from the light detector 31 (see, e.g., column 3, lines 35 and 36).

However, in sharp contrast to Applicants' invention as claimed in amended independent claims 1, 14 and 19, Heinemann fails to teach or otherwise suggest a blood parameter sensor that positions each of a light source and a light detector to face a blood circuit through a single, common slit. In fact, Heinemann effectively teaches away from this element of Applicants' claimed invention by teaching independent sending and receiving apertures 21, 23 that are physically displaced from each other and from the optical wall 25 of Heinemann.

As can be seen with reference to Applicants' Figures 5 and 6, Applicants single, common slit 12 enables the light emission device 13 and light reception device 14 of Applicants claimed invention to be easily positioned to face the blood circuit in a manner that provides for optical communication between the light emission device 13 and light reception device. In other words, the common slit 12 is less sensitive to precision of alignment of the devices 13, 14 relative to the slit 12

than the apertures 21, 23 of Heinemann's apparatus, thereby providing for easier and potentially less costly manufacturing, assembly and maintenance processes.

Accordingly, and for at least these reasons, Applicants respectfully submit that amended independent claims 1, 14 and 19 are not made obvious by the combination of Maynard and Heinemann, even with the addition of one or more of Burbank, Mould and Hunley, and are therefore in condition for allowance. As each of claims 2 - 13 and 15 - 18 depends either directly or indirectly from one of allowable independent claims 1 and 14, Applicants further submit that dependent claims 2 - 13 and 15 - 18 are also allowable for at least this reason.

Applicants therefore respectfully request that the rejection of claims 1 - 19 under 35 U.S.C. § 103(a) be withdrawn.

CONCLUSION

In view of the above amendments, Applicants believe the pending application is in condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

The Examiner is respectfully requested to contact the undersigned at the telephone number indicated below once he has reviewed the proposed amendment if the Examiner believes any issue can be resolved through either a Supplemental Response or an Examiner's Amendment.

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Respectfully submitted,

By 

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